1. In the context of the class lectures on postemergence herbicides -- DEFINE contact and systemic. (4 pts)

2. List four (4) postemergence, non-selective herbicides in order from fastest to slowest acting. (4 pts)

3. Of the 4 nonselective, postemergence herbicides listed above: which ones are contact and which are systemic? (4 pts)

4. When would you apply a postemergence graminicide to control annual bluegrass? (2pts)
a. In late summer  
b. In autumn  
c. In early summer

5. When would you apply a preemergence herbicide to control annual bluegrass? (2 pts) 
a. In late summer  
b. In autumn  
c. In early summer

6. Which two postemergence graminicides are most likely to injure ground cover junipers? (2 pts)

7. Rank the four postemergence graminicides by their efficacy on bermudagrass. (4pts)

_____________ > _______________ > _______________ > _______________
8. Lontrel is most effective on species in the ____________________ and _______________ families. (2 pt)

Give one example of a common weed in each plant family for which Lontrel is effective (2 pts)

Give one example of a common landscape tree injured by Lontrel. (2 pts)

9. When do we apply Casoron? (2 pts)
   a. Winter
   b. Spring
   c. Summer
   d. Early Fall

10. Casoron would NOT be particularly useful for controlling which weed? (2 pts)
    a. Mugwort
    b. Annual bluegrass
    c. Florida Betony
    d. Bamboo
    e. Bermudagrass

   WHY? (2 pts)
11. Porcelain berry is a deciduous woody vine that is an invasive weed in public lands and landscapes.

When would be the preferred time of year to treat this weed with Roundup-Pro? (2 pts)

What other herbicide did we discuss that would have a high probability of controlling this weed? And, when would be the preferred time of year to apply this herbicide? (2 pts)

12. Match the following weed with the preferred time of year to apply Roundup-Pro (1 pt ea.)

_____ Johnsongrass  A. Late summer / early fall
_____ Mugwort        B. Spring
_____ Catbriar (greenbriar)  C. When plants are beginning to flower
_____ Poison ivy      D. Winter

13. In a woody tree and shrub bed describe two strategies for controlling Purple nutsedge. If you are going to use a herbicide, be specific about the product and when you would make the application. (Fumigation is not an option. Neither is relying exclusively on hand weeding) (6 pts)
14. Before the plants flower how do you tell the difference between yellow and purple nutsedge? (2 pts) (an illustration would be best)

15. Match the statement in the left column with the most correct answer in the right column. Answers in the right column are used only once. (2 points each)

<table>
<thead>
<tr>
<th>Statement</th>
<th>Answer</th>
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<tbody>
<tr>
<td>Preemergence crabgrass and broadleaf weed control around woody ornamentals</td>
<td>A. Treflan</td>
</tr>
<tr>
<td>Preemergence control of yellow nutsedge</td>
<td>B. Biobarrier</td>
</tr>
<tr>
<td>Postemergence control of Pennywort</td>
<td>C. 2,4-D</td>
</tr>
<tr>
<td>Bamboo control in an azalea bed</td>
<td>D. Pennant Magnum</td>
</tr>
<tr>
<td>Postemergence control of yellow but not purple nutsedge</td>
<td>E. Surflan</td>
</tr>
<tr>
<td>Kills grass seeds</td>
<td>F. Metham sodium</td>
</tr>
<tr>
<td>Up to 40 years of weed control</td>
<td>G. Envoy</td>
</tr>
<tr>
<td>Preemergence control of annual bluegrass in annual bedding plants</td>
<td>H. Basagran</td>
</tr>
<tr>
<td>Postemergence control of annual bluegrass</td>
<td>I. Fusilade</td>
</tr>
<tr>
<td>Kills crabgrass seeds</td>
<td>J. Image</td>
</tr>
<tr>
<td>Is not recommended for use in landscape beds</td>
<td>K. Mulch</td>
</tr>
</tbody>
</table>
16. The label for Jim-Bob’s Super Duper Weed Killer suggests that you add 0.25% non-ionic surfactant to the spray solution. How much non-ionic surfactant do you add to your 4 gallon Solo Backpack Sprayer?       (5 pts)
   a. 128 oz
   b. 13 oz
   c. 1.3 oz
   d. 0.3 oz
   e. none of the above

17. You have a landscape bed that you want to treat with Treflan 5 G at a rate of 80 lb per acre. The landscape bed is about 15 ft. wide and 100 ft. long. How much Treflan 5G will you need to treat this bed? (5 pts)
   a. 1.4 lb
   b. 2.75 lb
   c. 5.5 lb
   d. 55 lb

18. What is dodder and why is it so hard to control in bedding plants (5pt)?
19. Which of the following management options are effective control options for dodder in landscape beds. Circle ALL correct answers (one point for each correct answer, one point off for each incorrect answer)

   a. Sanitation
   b. Dacthal applied preemergence
   c. Selective hand weeding
   d. Lontrel

20. You have determined that fumigation is the only choice you have for getting rid of a particularly difficult weed problem and that you are going to use Methyl Bromide for this fumigation. Describe the steps for preparing the site for fumigation (at least 4 items) and the procedures for using methyl bromide (what to do & when). (8 pts)
21. Florida Betony is one of the most difficult to control weeds in landscape beds. Mugwort is also difficult to control. Compare and contrast the two weeds. Include the following: Life cycles (describe similarities and differences); Means of spread and reproduction; Control measures in landscape beds (Be specific! Herbicides that work & timing)(10 pts)